Recommended Training: none.

OVERALL RECOMMENDATION

Research Product: Various GFRP Rebar Vendors

Suggested User: NCDOT Highway Department, Consultant Bridge Designers

Recommended Use: taking the protective coating of Pultrall and Hughes Brothers, and the increased deformities in the bars produce in Kodiak, combining the two strengths of the rebar vendors to create a bar that will have a protective coating against an alkali attack along with an increased in bond strength for bridge deck applications, i.e. NCDOT Bridge in Macon Bridge, where corrosive environment, i.e. saltwater, marine, and de-icing, are severe; an approximate life expectancy was determined for the four rebars based on previous analytical models (Nkurunziza et al., 2002), (Vijay, 1999); the life expectancy of Pultrall and Hughes Bros. is projected to be approximately 60 to 90 years, Tillco is projected to have a life expectancy of 40 to 60 years, while Kodiak had the shortest life expectancy of 20 to 30 years.

Recommended Training: application and procedure of GFRP within bridge decks.

9.2 Structural Implementation and Technology Transfer Plan

Research Product: GFRP deck reinforcement performance

Suggested User: bridge designers

Recommended Use: considering the fact that both analytical and experimental results yielded GFRP rebar strains and stresses well below its design limits, it is suggested to use a smaller deck reinforcement ratio in both top and bottom mats (both directions).

Recommended Training: none

Research Product: developed FE model

Suggested User: bridge designers

Recommended Use: the attached FE batch file can be used, with reasonable confidence, in future GFRP deck reinforcement parametric studies and initial design calculations.

Recommended Training: some minor modifications to this batch file would be required to tailor the model to actual bridge parameters of future design and construction projects.